
8. CONCLUSION

This study has identified several improvements to address the issues of mobility and safety in the Route 60 corridor for motorists, bicyclists, pedestrians, and transit users. All of the improvements are short-term or intermediate-term and could be implemented within five years. There are several agencies that operate transportation facilities in the corridor, including the Massachusetts Highway Department, the Massachusetts Department of Conservation and Recreation, and the MBTA, in addition to the Cities of Malden and Medford. Successful implementation of the projects advancing from this study is dependent on coordination among the stakeholders, sufficient public participation, and securing funding for the projects.

For reference, a description of the implementation process of the Massachusetts Highway Department is provided (see Appendix B). The process for implementing new and modified MBTA services is based on the service planning process defined in the 2006 Update of the MBTA Service Delivery Policy (see Appendix C).

Appendix A

Massachusetts Bay Transportation Authority: Bus Shelter Policy

BUS SHELTER POLICY (Effective: April 2005)

A. Purpose

The purpose of this policy is to provide guidance for the placement of MBTA bus shelters and to establish a procedure for evaluating shelter requests. In areas or locations where the MBTA, or its contractors, are the primary suppliers of shelters at bus stops, placements will be evaluated using two steps:

1. Conformance with eligibility standards, and
2. A site suitability test.

Central to any placement decision will be a commitment to meeting the requirements of Title VI of 1964 Civil Rights Act as defined in the FTA Circular C 4702.1. Title VI ensures that MBTA services are distributed in such a manner that minority communities receive benefits in the same proportion as the total service area.

This policy in no way establishes a requirement for placement, since all placements will be dependent on available resources.

B. Background

The previous shelter policy was established in 1984, having been extracted from the 1977 Service Policy for Surface Public Transportation. This older policy considered three major factors when evaluating stops: number of boardings, frequency of service, and percentage of persons using the stop that were elderly or had disabilities.

The current policy continues to include these important measures; however, it more systematically quantifies each factor in determining eligibility.

C. Evaluation Procedure

MBTA Operations will be responsible for evaluating placement requests and ensuring compliance with Title VI.

The first step in the evaluation process is a determination if the bus stop conforms with shelter eligibility standards. As in the previous shelter policy, the number of boardings at a bus stop is a major determinant for eligibility. As described in the table below, all bus stops that meet the required number of boardings will be eligible. However, a number of other criteria can also be considered. To standardize the process, the various types of criteria have been given values. The following table lists all criteria to be factored into an assessment of eligibility for each bus stop and the value associated with each criterion. A site must receive a total of 70 points to be considered eligible under this policy.

Any bus stop that has more than 60 boardings is eligible for a shelter, with an automatic score of 70 points. For bus stops with fewer boardings, a combination of the factors listed above will be considered in determining eligibility. Operations will keep records of all requests that document the assignment of scores. All bus stops that currently have shelters will be grandfathered into the program without need for additional analysis.

Eligibility Criteria	Points
60+ Average weekday daily boardings (ADB)	70
50-59 ADB	60
20-49 ADB	40
Less than 20 ADB	30
MBTA initiative to strengthen route identity	20
Seniors, disabled, medical, social service, or key municipal facility in close proximity to stop	15
Official community recommendation	10
Bus route transfer point	10
Infrequent service (minimum of 30minute peak/60minute off peak headway)	10
Poor site conditions (weather exposure etc.)	5
Shelter promotes adjacent development/increased ridership	5

Passing Score:

70

The second step in the evaluation process is the site suitability test. There are physical and practical requirements that must be met before a shelter can be placed. These include:

- (1) Property ownership,
- (2) Abutter approval,
- (3) Compliance with the Americans with Disabilities Act requirements,
- (4) Adequate physical space and clearances,
- (5) Close proximity to an existing bus stop, and
- (6) Community approval

D. Reporting

The Operations Department will retain the necessary documents to ensure correct application of the policy. The Service Planning Department and CTPS will submit the required Title VI reports. Title VI ensures that MBTA services are distributed in such a manner that minority communities receive benefits in the same proportion as the total service area.

In terms of the shelter policy, once a bus stop is eligible for a shelter it will be included in all analyses for Title VI purposes, until such time that it is indicated otherwise. Consequently, all bus stops with 60 or more boardings will be included in Title VI reports, as well as any bus stops with less than 60 boardings that meet the 70-point eligibility requirement. Any bus stop that meets the eligibility standard, but is found not to meet the site suitability test, will be noted and not included in the analysis. Bus stops in the MBTA service area that have pre-existing shelters, but do not meet the policy requirements, will be noted and included in the total comparisons.

Appendix B

Massachusetts Highway Department Project Implementation Process

The following description of the implementation process is based on Chapter 2 of the *Massachusetts Highway Department Project Development and Design Guide (2005)*. The text below borrows heavily from that document.

Needs Identification

For each of the locations at which an improvement is to be implemented, MassHighway leads an effort to define the problem, establishes project goals and objectives, and defines the scope of the planning needed for implementation. To that end, it has to complete a Project Need Form (PNF), which states in general terms the deficiencies or needs related to the transportation facility or location. The PNF documents the problems and explains why corrective action is needed. For this study, the information defining the need for the project will be drawn primarily, perhaps exclusively, from the present report. Also, at this point in the process, MassHighway meets with potential participants, such as the Boston Region Metropolitan Planning Organization (MPO) and community members, to allow for an informal review of the project.

The PNF is reviewed by the MassHighway district office whose jurisdiction includes the location of the proposed project. MassHighway also sends the PNF to the MPO, for informational purposes. The outcome of this step determines whether the project requires further planning, whether it is already well supported by prior planning studies, and, therefore, whether it is ready to move forward into the design phase, or whether it should be dismissed from further consideration.

Planning

This phase will likely not be required for the implementation of the improvements proposed in this planning study, as this planning report should constitute the outcome of this step. However, in general, the purpose of this implementation step is for the project proponent to identify issues, impacts, and approvals that may need to be obtained, so that the subsequent design and permitting processes are understood.

The level of planning needed will vary widely, based on the complexity of the project. Typical tasks include: define the existing context, confirm project need, establish goals and objectives, initiate public outreach, define the project, collect data, develop and analyze alternatives, make recommendations, and provide documentation. Likely outcomes include consensus on the project definition to enable it to move forward into environmental documentation (if needed) and design, or a recommendation to delay the project or dismiss it from further consideration.

Project Initiation

At this point in the process, the proponent, MassHighway, fills out, for each improvement, a Project Initiation Form (PIF), which is reviewed by its Project Review Committee (PRC) and the MPO. The PRC is composed of the Chief Engineer, each District Highway Director, and representatives of the Project Management, Environmental, Planning, Right-of-Way, Traffic, and Bridge departments, and the Capital Expenditure Program Office (CEPO). The PIF documents the project type and description, summarizes the project planning process, identifies likely funding and project management responsibility, and defines a plan for interagency and public participation. First the PRC reviews and evaluates the proposed project based on the Executive Office of Transportation and Public Works's statewide priorities and criteria. If the result is positive, MassHighway moves the project forward to the design phase, and to programming review by the MPO. The PRC may provide a Project Management Plan to define roles and responsibilities for subsequent steps. The MPO review includes project evaluation based on the MPO's regional priorities and criteria. The MPO may assign a project evaluation criteria score, a Transportation Improvement Program (TIP) year, a tentative project category, and a tentative funding category.

Environmental, Design, and Right-of-Way Process

This step has four distinct but closely integrated elements: public outreach, environmental documentation and permitting (if required), design, and right-of-way acquisition (if required). The outcome of this step is a fully designed and permitted project ready for construction. However, a project does not have to be fully designed in order for the MPO to program it in the TIP.

Programming

Programming, which typically begins during the design phase, can actually occur at any time during the process, from planning to design. In this step, which is distinct from project initiation, where the MPO receives preliminary information on the proposed project, the proponent requests that the MPO place the project in the region's TIP. The MPO considers the project in terms of regional needs, evaluation criteria, and compliance with the regional Transportation Plan and decides whether to place it in the draft TIP for public review and then in the final TIP.

Procurement

Following project design and programming, MassHighway publishes a request for proposals. It then reviews the bids and awards the contract to the qualified bidder with the lowest bid.

Construction

After a construction contract is awarded, MassHighway and the contractor develop a public participation plan and a management plan for the construction process.

Project Assessment

The purpose of this step is to receive constituents' comments on the project development process and the project's design elements. MassHighway can apply what is learned in this process to future projects.

Appendix C

Massachusetts Bay Transportation Authority Service Delivery Policy

Chapter 4: Service Planning Process

Chapter 4: Service Planning Process

The MBTA regularly evaluates the performance of its services through the service planning process. The primary objective of the service planning process is to ensure that the MBTA uses available resources in the most effective manner by developing strategies to improve performance and/or to reallocate service within the system.

The service planning process varies somewhat by mode and is affected by whether or not the service is operated directly by the MBTA (bus and rapid transit), or is operated for the MBTA by a contractor (commuter rail and boat). Following is a discussion of the process for each mode. The final section of this chapter outlines the procedures for public participation in the service planning process.

Directly Operated Services

- **Bus Service Planning Process**

The bus service planning process takes place on two levels. One is the on-going evaluation and implementation of incremental service changes that occur on a quarterly basis. The other is a two-year planning cycle for development of the biennial Service Plan, which can include major restructuring of existing bus routes and proposals for new bus services.

The data used for all service evaluations are collected on a regular basis through various means to track and evaluate the performance of services against each of the Service Standards (as defined in Chapter 3).

The primary differences between the on-going service planning process and the planning process used to develop the Biennial Service Plan include:

- the magnitude of the service changes considered (minor or major—as defined below);
- the extent and type of analysis used;
- the level of public participation; and
- whether the effort is incremental or comprehensive in nature.

Minor changes to bus services are made through the on-going service planning process and can be implemented with existing equipment, within the adopted budget, and without significantly affecting route structure or service delivery.

Major changes are ones that will have a significant effect on riders, resource requirements, route structure, or service delivery (as defined in Table 1). These are evaluated and implemented only through development of the Biennial Service Plan (with the exception of new services associated with a major capital investment).

Table 12: Minor & Major Service Changes

Magnitude:	Type:	Resource Implications:
Minor	<ul style="list-style-type: none"> • Running time adjustments • Departure time adjustments • Headway changes to match ridership and service levels (provided the frequency and loading standards are still met) • Changes to bus stop locations • Alignment changes • Span of service changes within 1 hour or less • Route extensions of 1 mile or less • Route variation modifications 	Changes that can be implemented with existing equipment and within the adopted budget
Major	<ul style="list-style-type: none"> • Major service restructuring • Implementation of new routes or services • Elimination of a route or service • Elimination of part of a route • Span of service changes greater than 1 hour 	Changes that will have a significant affect on resources and may potentially have a significant affect on riders

The On-going Bus Service Planning Process: The service changes that are evaluated in the on-going service planning process can be initiated in a variety of ways. These include, but are not limited to:

- service requests and/or complaints from the public;
- feedback from MBTA Bus Operations staff, such as drivers, garage superintendents or schedule makers;
- proposals made by the MBTA Service Planning staff; and
- studies completed by CTPS (for the Boston MPO), by other regional entities, or by municipalities.

Service Planning staff screen all potential service changes to determine whether they are minor or major in nature (as defined above). In addition, each potential change is considered using the criteria listed below (not all criteria are necessarily used in every evaluation).

- Performance measured against the Service Standards
- The rationale for the change
- Net cost per new passenger
- Net savings per lost passenger
- Changes in ridership
- Changes in travel time for existing riders
- Changes in operating costs
- Changes in fare revenue
- Key characteristics and demographics of the market
- Contribution to the achievement of external mandates, such as Title VI
- Other factors, as appropriate

Proposed minor changes that have been analyzed by the Service Planning Department are presented to the Service Committee, which is chaired by the Manager of Service Planning and includes representatives of the following departments:

- Service Planning
- Plans and Schedules
- Bus Operations
- Operations Support
- Customer Communications Center
- Office for Transportation Access
- Public Affairs,
- Intergovernmental Affairs
- Other Departments, as appropriate

Minor changes that are approved by the Service Committee, and that can be made within the adopted budget, are implemented as soon as possible—usually in the next quarterly schedule change.

The Biennial Service Plan Process: Every two years, the MBTA develops a biennial Service Plan that describes the performance of the system and the services that will be operated in the upcoming two years. The plan encompasses all fixed-route services and includes:

- a description of the performance of existing services;
- recommendations for major service changes;
- a discussion of service changes that were considered and/or evaluated, but are not recommended at the time; and
- a general review of the effectiveness of previous major service changes (major service changes would not be reported on in the service planning cycle immediately after their implementation, but would be evaluated in the following planning cycle to allow time for ridership to build).

As with the on-going service planning process, a major goal in the development of the biennial Service Plan is to ensure that the MBTA uses available funds in the most effective manner. However, this planning process can also identify major service changes and enhancements that have merit, but that cannot be funded within the existing operating budget. In such cases, the need for additional operating funds can be identified for request, and the service can be implemented when sufficient resources become available.

A key component of the biennial service planning process is an evaluation of the performance of existing services, as measured using the Service Standards found in Chapter 3 of this policy. Based on this analysis, the Service Planning Department proposes major service changes that will improve the performance of services that fail any of the Service Standards. (Minor service changes may also be identified at this time; however, they may be implemented as soon as possible, rather than waiting for the full acceptance of the Service Plan.)

Service changes considered in the biennial Service Plan can also be proposed through all of the same avenues as those considered in the on-going service planning process. Indeed, many may be identified through the on-going screening of projects. In addition, public input for the biennial Service Plan is sought through public meetings and public hearings, as described later in this chapter.

During development of the biennial Service Plan, potential major changes are evaluated through a comparative evaluation to determine which represent the best allocation of available resources. To complete the comparative evaluation, the Service Planning Department creates a list of all proposed service increases and reductions. The proposed service increases are ranked using the net cost per new passenger: those that garner the most new passengers at the lowest incremental cost are ranked highest priority for implementation. The proposed service reductions are ranked using the net savings per lost passenger: those that save the most money with the lowest loss of passengers are ranked highest priority for implementation.

Other evaluation criteria are also used in the comparative evaluation, as appropriate, to determine the rank of service change proposals. For example, higher priority would be given to a proposed change that improved a route's performance on one or more of the service standards (as defined in Chapter 3).

After the rankings are completed, the savings from the major service reductions are compared to the cost of major service enhancements to help select the proposed service changes. The goal is to maximize ridership and service performance in a cost-effective manner. The recommendations that result from this process are reviewed by the Service Committee to assess the feasibility of implementation before they are included in the Preliminary Service Plan. Each Preliminary Service Plan is made available to the public for review and comment (as described later in this chapter). A list of the final recommendations, an indication of the routes that still violate one or more of the service standards, and the Title VI analysis are then submitted to the MBTA Board of Directors for final approval before the changes are implemented.

Table 13: Summary of Service Planning Processes

	On-going Service Planning Process	Biennial Service Plan Process
Magnitude of changes:	<ul style="list-style-type: none"> • Minor 	<ul style="list-style-type: none"> • Major
Initiation of changes:	<ul style="list-style-type: none"> • Requests/complaints from public • Bus Operations feedback • Service Planning Staff • Service Studies 	<ul style="list-style-type: none"> • Requests/complaints from public • Bus Operations feedback • Service Planning Staff • Service Studies • Public Meetings
Evaluation of changes:	<ul style="list-style-type: none"> • Route or garage level analysis using the Evaluation Criteria • Review by Service Committee 	<ul style="list-style-type: none"> • Route or garage level analysis using the Evaluation Criteria (including performance review of all services using Service Standards) • Comparative evaluation of proposed service changes, and possible new services • Review by Service Committee • Public review and comment • Title VI analysis
Implementation of changes:	<ul style="list-style-type: none"> • Quarterly with regular schedule changes 	<ul style="list-style-type: none"> • Biennially, upon approval of the Service Plan by the MBTA Board of Directors

- **Light Rail/Heavy Rail Service Planning Process (to be completed)**

Contract Services

- **Commuter Rail Service Planning Process (to be completed)**
- **Commuter Boat Service Planning Process (to be completed)**

Public Participation

Public participation in the service planning process varies somewhat by mode and occurs as both an on-going process and as a Service Plan specific process. The purpose of public involvement in the service planning process is to promote a regular dialogue with existing and potential riders, elected officials, and communities regarding their ever-changing service needs

- **On-Going Public Outreach**
The MBTA provides avenues for on-going communication through the MBTA's website, as well as the customer complaints phone line and comments sent to individual MBTA officials. Service related comments/requests are directed to the appropriate department for consideration and response. Upon request, MBTA staff also attend public meetings held by municipalities and meetings with public

officials to address specific service issues. In addition, from time to time, the MBTA may conduct specific market or route-based surveys to gather direct input on a major service change or potential new service.

- **Biennial Service Plan Public Outreach**

Service Plan outreach efforts are intended to provide members of the public with the opportunity to submit service requests to the MBTA for consideration in development of the Biennial Service Plan. To this end, the MBTA solicits ideas for service changes through written comments (submitted on-line or via the mail), as well as through public meetings throughout the service area, before a draft plan is written.

Upon completion of the draft biennial Service Plan, the MBTA schedules a second round of public meetings in appropriate locations. At these open meetings the MBTA presents the analysis and issues behind the proposed service changes and solicits public comments on them. In addition, at least one Public Hearing is held to receive formal public comments on the draft Biennial Service Plan. MBTA staff then assess and analyze the suggestions made through the public comments and, as appropriate, incorporate them into the final recommendations that go to the MBTA Board of Directors for approval before implementation.

All Service Plan public notifications, meetings, and hearings will conform to the requirements of the Americans with Disabilities Act, Title VI of the Civil Rights Act of 1964, and MBTA policies associated with these laws.